in coal production at WCL and even the power stations of Maharashtra are being supplied coal from the coalfields located at Orissa and Chhattisgarh. Moreover, in order to comply with MoEF norms, power stations in Gujarat are being supplied coal of lower ash content from nearest coalfields of Korea-Rewa of SECL for arriving at desired blending **mix.**

Fire incidents in coal mines

t 1406. SHRI JA1 PARKASH AGGARWAL: Will the PRIME MINISTER be pleased to state:

(a) thejieasons for fire incidents taking place in the coal mines and the remedial steps taken by Government in this regard;

(b) the amount spent by Government till date on the security of coal mines and factories situated in the various States during the last two years; and

(c) the measures taken for improving anti-fire systems of coal mines and factories?

THE MINISTER OF STATE IN THE MINISTRY OF COAL (DR. DASARI NARAYAN RAO): (a) The basic cause of coal mine fire is self-heating or auto-oxidajion of coal that starts as soon as it is exposed to the air in the course of mining operations. When the heat generated by the reaction of oxidation of coal is not dissipated at an adequate rate rise in temperature occurs. This rise in temperature leads to acceleration in the rate of oxidation, which can ultimately lead to an outbreak of fire. This is termed as spontaneous heating, which depends on the intrinsic characteristics of coal and other extrinsic causes encountered in the course of mining operations, which may facilitate or retard initiation of mine fire. The intrinsic properties are like chemical composition of coal (presence of certain macerals e.g. vitrinite etc.), moisture content, volatile matter, presence of pyrites and other geological factors. The extrinsic causes are like method of mining (such as depillaring with caving etc.), ventilation, presence of external combustible materials, un-scientific mining in past etc. Some coal seams, especially in Raniganj, Jharia, South Karanpura coalfields, are more susceptible to spontaneous heating which increases the possibility of mine fire.

As per Coal Mine Regulation (CMR) 1957(116A, 117,118,118A&' 119) the remedial precautionary steps are being taken by CIL against spontaneous heating and accidental fires in mines. The precautionary steps against spontaneous heating and accidental fires so taken by Coal India Limited (CIL) are being monitored from time to time by law enforcing agency of Government of India *i.e.* Director General of Mine Safety (DGMS).

(b) Company-wise expenditure for securing safety for last two financial years *i.e.* 2005-06 and 2006-07 is given below:—

all figures in lakh rupees

Company	Year	
	2005-06	2006-07
Eastern Coalfields Ltd.	9586.00	9724X4
Bharat Coking Coal Ltd.	15093.44	19242.57
Central Coalfields Ltd.	1615.00	1503.00
Northern Coalfields Ltd.	4113.00	3718.13

t Original notice of the question was received in Hindi.

Company	Year	
	2005-06	2006-07
Western Coalfields Ltd.	7098.67	7008.62
South Eastern Coalfields Ltd.	10199.45	11065.50
Mahanadi Coalfields Ltd.	4008.36	3915.15
North Eastern Coalfield	248.50	555.00
Overall in Coal India Ltd.	51962.42	56732.81

(c) The following measures have been taken for improving anti-fire systems of coal mines.

(i) Computer based continuous monitoring of mine atmosphere *i.e.* environmental Tele-Monitoring System (ETMS) have been installed in some deg-III and fiery underground mines, which can detect fire almost immediately.

(ii) Using modern Carbon Monoxide (CO)-detector for early detection of presence of CO at mine air which indicates existence of fire/spontaneous heating in the mine.

(iii) Using inbuilt automatic Fire Detection System for automatic detection and extinguish, fire in high capacity heavy earth moving machineries (HEMM).

(iv) Using pressure-balancing techniques for controlling underground mine fire.

(v) Infusion of inert gas e.g. N_2 for combating mine fires.

(vi) For surface coal dumps water infusion and water spraying arrangements are made. At time shifting of dumps is also done *to* prevent occurrence of fire.

Pilferage of coal

1407. SHRI AMIR ALAM KHAN: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that coal is being stolen at **a** large scale in the country;

(b) if so, the details thereof;

(c) whether these coal thieves and mafias have not been restrained inspite of the efforts made by Government;

(d) whether Government has made an assessment of revenue losses caused every year due to coal pilferage;

(e) if so, the details thereof;

(f) if not, the reasons therefor; and

(g) the positive efforts being made by Government in order to check the looting of coal and to ensure that this unabated pilferage of coal may be controlled?

THE MINISTER OF STATE IN THE MINISTRY OF COAL (DR. DASARI NARAYAN RAO): (a) to (c) The Government is aware of incidents of theft of coal being carried out stealthily and clandestinely. Coal India Ltd. (CIL) and its subsidiaries take measures